

COIMBATORE -641 105.

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

REGULATIONS 2021

COURSE OUTCOMES

Year / Sem : II / III

Course Code & Name : MA3355 & Random Processes and Linear Algebra

CO No.	Course Outcomes (COs)	Knowledge Level
C201.1	Relate the concepts of probability and standard distributions in real life phenomenon.	K2
C201.2	Summarize the notions of co-variance, correlation and regression in communication engineering.	K2
C201.3	Apply the concept of random processes in engineering disciplines.	K3
C201.4	Explain the concepts of vector spaces and linear combinations.	K2
C201.5	Demonstrate the concept of linear transformation, diagonalization of matrix and Interpret the Inner product spaces in Gram Schmidt orthogonalization process.	K2

Year / Sem : II / III

Course Code & Name : EC8393 & C Programming and Data Structures

CO No.	Course Outcomes (COs)	Knowledge Level
C202.1	Develop C programs for any real world/technical application.	K3
C202.2	Apply advanced features of C in solving problems.	K3
C202.3	Apply Linear data structures to solve various computing problems.	K3
C202.4	Solve different computing problems using non-liner data structure and hashing techniques.	К3
C202.5	Apply different sorting, searching techniques to solve real world problems.	K3



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COURSE OUTCOMES

Year / Sem : II / III

Course Code & Name : EC3354 & Signals and Systems

CO No.	Course Outcomes (COs)	Knowledge
	Classify the types of signals & systems	Level V2
C203.1	Classify the types of signals & systems	K 2
C203.2	Apply Fourier series, Fourier transform and Laplace Transforms for continuous time signals	K3
C203.3	Interpret Linear Time Invariant Continuous time system using Transforms	K2
C203.4	Apply DTFT and Z transform for Discrete time signals	K3
C203.5	Interpret Linear Time Invariant Discrete time system using Transforms	K2

Year / Sem : II / III

Course Code & Name : EC3353 & Electronic Devices and Circuits

CO No.	Course Outcomes (COs)	Knowledge Level
C204.1	Explain the structure and working operation of basic electronic devices	K2
C204.2	Apply the small signal analysis for the BJT amplifiers and MOSFET amplifiers	К3
C204.3	Outline the operation of multi stage amplifiers and differential amplifier	K2
C204.4	Illustrate the working of feedback amplifiers and oscillators	K2
C204.5	Apply the principles of conduction angle in power amplifiers	К3



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COURSE OUTCOMES

Year / Sem : II / III

Course Code & Name : EC3351 & Control Systems

CO No.	Course Outcomes (COs)	Knowledge Level
C205.1	Develop the transfer function model of complicated system into a more simplified form using transfer function concept and also model the different physical and mechanical systems in terms of electrical system to construct equivalent electrical models for analysis.	K3
C205.2	Solve the time domain analysis to predict and diagnose transient performance parameters of the system for standard input functions and identify the needs of different types of controllers to ascertain the required dynamic response from the system.	K3
C205.3	Apply the Concept of frequency response for the given open and closed loop system and also analysis through frequency response plots to explain the nature of stability of the system.	K3
C205.4	Apply the concepts of various system stability criterions and roots-locus technique to determine the absolute stability of a closed-loop control system.	K3
C205.5	Make use of state variable representation for the solution of state and output equation.	K3

Year / Sem : II / III

Course Code & Name : EC3352 & Digital Systems Design

CO No.	Course Outcomes (COs)	Knowledge Level
C206.1	Make use of Boolean algebra and simplification procedures relevant to digital logic.	К3
C206.2	Develop various combinational digital circuits using logic gates.	K3
C206.3	Analyze and design synchronous sequential circuits.	K4
C206.4	Analyze and design asynchronous sequential circuits.	K4
C206.5	Build logic gates and use programmable devices.	K3



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Year / Sem : II / III

Course Code & Name : EC3361 & Electronic Devices and Circuits Laboratory

CO No.	Course Outcomes (COs)	Knowledge Level
C207.1	Analyze the characteristics of different diodes and rectifiers.	K4
C207.2	Analyze the characteristics of BJT and MOSFET.	K4
C207.3	Analyze the frequency response of different types of amplifiers.	K4
C207.4	Construct the differential amplifier and power amplifier.	К3
C207.5	Build the tuned amplifiers and oscillators.	K3

Year / Sem : II / III

Course Code & Name : CS3362 & C Programming and Data Structures Laboratory

CO No.	Course Outcomes (COs)	Knowledge Level
C208.1	Make use of different constructs of C and develop applications	K3
C208.2	Develop a functions to implement linear and non-linear data structure operations	K3
C208.3	Make use of appropriate linear and nonlinear data structure operations for a given problem	K3
C208.4	Apply appropriate hash functions that result in a collision free scenario for data storage and retrieval.	K3
C208.5	Solve the given application using sorting and searching algorithms.	K3



RPAGAM KARPAGAM INSTITUTE OF TECHNOLOGY COIMBATORE -641 105. DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING REGULATIONS 2021 COURSE OUTCOMES

Year / Sem : II / IV

Course Code & Name : EC3452 & Electromagnetic Fields

CO No.	Course Outcomes (COs)	Knowledge Level
C210.1	Relate the fundamentals of vector, coordinate system to electromagnetic concepts	K2
C210.2	Explain the characteristics of Electrostatic field	K2
C210.3	Demonstrate the concepts of Electric field in material space and solve the boundary conditions	K3
C210.4	Explain the concepts and characteristics of Magneto Static field in material space and solve boundary conditions.	K2
C210.5	Infer the significance of time varying fields	K2

Year / Sem : II / IV

Course Code & Name : EC3401 & Networks and Security

CO No.	Course Outcomes (COs)	Knowledge Level
C211.1	Explain the Network Models, layers and functions.	K2
C211.2	Apply the concept of routing protocols and addressing mechanisms for data transmission.	K3
C211.3	Outline the functions of the transport and application layer.	K2
C211.4	Identify the network security mechanisms.	K3
C211.5	Summarize the hardware security attacks and countermeasures.	K2



RPAGAM KARPAGAM INSTITUTE OF TECHNOLOGY COIMBATORE -641 105. DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING REGULATIONS 2021 COURSE OUTCOMES

Year / Sem : II / IV

Course Code & Name : EC3451 & Linear Integrated Circuits

CO No.	Course Outcomes (COs)	Knowledge Level
C212.1	Explain the basics of linear and nonlinear applications operational amplifiers	K2
C212.2	Outline the applications of operational amplifiers	K2
C212.3	Utilize the applications of Analog Multiplier and PLL	K3
C212.4	Interpret Analog to Digital and Digital to Analog convertors	K2
C212.5	Illustrate waveform generators and special function ICs	K2

Year / Sem : II / IV

Course Code & Name : EC3492 & Digital Signal Processing

CO No.	Course Outcomes (COs)	Knowledge Level
C213.1	Apply the discrete Fourier transform and its properties for linear filtering	K3
C213.2	Develop the digital IIR filter to filter undesirable signals in various frequency bands	K3
C213.3	Develop the digital FIR filter to filter undesirable signals in various frequency bands	К3
C213.4	Infer the effects of finite word length representation on digital filters	K2
C213.5	Outline the applications of multirate signal processing and adaptive filters.	K2



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Year / Sem : II / IV

Course Code & Name : EC3491 & Communication Systems

: II / IV

CO No.	Course Outcomes (COs)	Knowledge Level
C214.1	Outline the concepts of various analog modulations and their spectral characteristics.	K2
C214.2	Explain the concept of random process and noise performance of AM and FM systems.	K2
C214.3	Outline the waveform coding for different modulation techniques.	K2
C214.4	Apply the various band pass signaling schemes on Coherent BPSK, BFSK & QPSK.	K3
C214.5	Explain the concepts of demodulation techniques	K2

Year / Sem

Course Code & Name : GE3451 & Environmental Sciences and Sustainability

CO No.	Course Outcomes (COs)	Knowledge Level
C215.1	Explain the concept of ecosystem, values of biodiversity threats and outline the methods to conserve the biodiversity.	K2
C215.2	Relate the causes and effects of Environmental Pollution and provide technical solution for pollution control.	K2
C215.3	Interpret the types of natural resources available and measures to utilize them sustainably.	K2
C215.4	Summarize the sustainability goals and managethe industrial environment.	K2
C215.5	Inferthe sustainable practices and principles of green engineering.	K2



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Year / Sem : II / IV

Course Code & Name : EC3461 & Communication Systems Laboratory

CO No.	Course Outcomes (COs)	Knowledge Level
C216.1	Develop their knowledge in base band signaling schemes through implementation of analog modulation schemes	K3
C216.2	Verify the sampling theorem and understand TDM operation.	K3
C216.3	Develop their knowledge in base band signaling schemes through implementation of Pulse modulation schemes	K3
C216.4	Develop their knowledge in base band signaling schemes through implementation of digital modulation schemes and their simulation	K3
C216.5	Apply various channel coding schemes for a given binary data and understand the FDM operation	К3

Year / Sem : II / IV

Course Code & Name : EC3462 & Linear Integrated Circuits Laboratory

CO No.	Course Outcomes (COs)	Knowledge Level
C217.1	Analyse various types of feedback amplifiers	K4
C217.2	Design oscillators, tuned amplifiers, wave-shaping circuits and multivibrators	K4
C217.3	Design and simulate feedback amplifiers, oscillators, tuned amplifiers, wave- shaping circuits and multivibrators, filters using SPICE Tool.	K4
C217.4	Design amplifiers, oscillators, D-A converters using operational amplifiers.	K4
C217.5	Design filters using op-amp and perform an experiment on frequency response	K4



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COURSE OUTCOMES

Year / Sem : III / V

Course Code & Name : EC3501 & Wireless Communication

CO No.	Course Outcomes (COs)	Knowledge Level
C301.1	Analyze various types of feedback amplifiers	K4
C301.2	Design oscillators, tuned amplifiers, wave-shaping circuits and multivibrators	K6
C301.3	Design and simulate feedback amplifiers, oscillators, tuned amplifiers, wave- shaping circuits and multivibrators, filters using SPICE Tool.	K6
C301.4	Design amplifiers, oscillators, D-A converters using operational amplifiers.	K6
C301.5	Design filters using op-amp and perform an experiment on frequency response	K6

Year / Sem : III / V

Course Code & Name : EC3552 & Vlsi And Chip Design

CO No.	Course Outcomes (COs)	Knowledge Level
C302.1	In depth knowledge of MOS technology.	K1
C302.2	Understand Combinational Logic Circuits and Design Principles.	K2
C302.3	Understand Sequential Logic Circuits and Clocking Strategies.	K2
C302.4	Understand Memory architecture and building blocks.	K 1
C302.5	Understand the ASIC Design Process and Testing.	K1



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Year / Sem : III / V

Course Code & Name : EC3551 & Transmission Lines and RF Systems

CO No.	Course Outcomes (COs)	Knowledge Level
C303.1	Explain the characteristics of transmission lines and its losses.	K2
C303.2	Calculate the standing wave ratio and input impedance in high frequency transmission lines.	К3
C303.3	Analyze impedance matching by stubs using Smith Charts.	K4
C303.4	Comprehend the characteristics of TE and TM waves.	K2
C303.5	Design a RF transceiver system for wireless communication	K6

Year / Sem : III / V

Course Code & Name : EC3561& Vlsi Laboratory

CO No.	Course Outcomes (COs)	Knowledge Level
C304.1	Write HDL code for basic as well as advanced digital integrated circuit.	K2
C304.2	Import the logic modules into FPGA Boards.	K3
C304.3	Synthesize Place and Route the digital Ips.	K3
C304.4	Design, Simulate and Extract the layouts of Digital & Analog IC Blocks using EDA tools.	K6
C304.5	Test and Verification of IC design.	K5



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COURSE OUTCOMES

Year / Sem : III / VI

Course Code & Name : ET3491 & Embedded Systems and IoT Design

CO No.	Course Outcomes (COs)	Knowledge Level
C305.1	Explain the architecture and features of 8051.	K2
C305.2	Develop a model of an embedded system.	K3
C305.3	List the concepts of real time operating systems.	K1
C305.4	Learn the architecture and protocols of IoT.	K3
C305.5	Design an IoT based system for any application.	K6

Year / Sem : III / VI

Course Code & Name : CS3491 & Artificial Intelligence and Machine Learning

CO No.	Course Outcomes (COs)	Knowledge Level
C306.1	Use appropriate search algorithms for problem solving.	K2
C306.2	Apply reasoning under uncertainty.	K3
C306.3	Build supervised learning models.	K3
C306.4	Build ensembling and unsupervised models.	K3
C306.5	Build deep learning neural network models.	К3